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No. —

In the Supreme Court of the United States

OCTOBER TERM 1960

UNITED STATES OF AMERICA AND ATOMIC ENERGY
COMMISSION, PETITIONERS

v.
INTERNATIONAL UNION OF ELECTRICAL, RADIO AND
MACHINE WORKERS, AFL-CIO, ET AL.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED
STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA
CIRCUIT

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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED
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The Solicitor General, on behalf of the United States of America and the Atomic Energy Commission, petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the District of Columbia Circuit entered in the above case on June 10, 1960.¹

OPINION BELOW

The opinion of the court of appeals (Appendix *infra*, pp. 31-49) is not yet reported. The opinion of

¹ A petition for a writ of certiorari to review the judgment below has already been filed by the Power Reactor Development Company, No. 315, this Term.

the Atomic Energy Commission is set forth at Tr. 6933-7024.²

JURISDICTION

The judgment of the court of appeals was entered on June 10, 1960 (App. *infra*, p. 65), and petitions for rehearing *en banc* were denied on July 25, 1960 (App., *infra*, pp. 66-67). The jurisdiction of this Court is invoked under 5 U.S.C. 1040, and 28 U.S.C. 1254(1).

QUESTIONS PRESENTED

1. Whether the Atomic Energy Act of 1954 precludes the Atomic Energy Commission from approving a site for an atomic power reactor that is close to a populated area—based on Commission findings that the site is suitable for a reactor of the general type and that there is reasonable assurance that its operation there would not cause undue risk to the public health and safety—unless the Commission further finds that there are “compelling reasons” for such location.
2. Whether the Act requires the Commission, in granting a permit for the construction of a developmental atomic power reactor, to make the same findings with respect to the safety of its operation as are required before it grants an operating license.³

² “Tr.” refers to the original pagination of the certified transcript which is indicated in bold face in the printed Joint Appendix in the court of appeals. Nine copies of the Joint Appendix and one copy of the entire certified transcript have been filed in this Court accompanying the petition in No. 315.

³ A subsidiary question presented—which we intend to argue if certiorari is granted—is whether, as the court of appeals held (App. *infra*, p. 43), “the Commission’s findings regarding safety of operation are ambiguous.” See note 16, *infra*, p. 20.

3. Whether respondent unions were persons aggrieved by the grant of a construction permit, where the alleged injury would result from the operation, and not from the construction, of the reactor, and where a further Commission order was required before the reactor could be operated.

STATUTE AND REGULATIONS INVOLVED

The pertinent provisions of the Atomic Energy Act of 1954, the Judicial Review Act of 1950, and the Commission's regulations are set forth in the Appendix *infra*, pp. 49-62.

STATEMENT

This case involves the validity of a permit for the construction of a large developmental atomic power reactor, issued by the Atomic Energy Commission under the Atomic Energy Act of 1954, in accordance with its regulations. A divided court of appeals set aside the permit, on the ground that the Commission's findings did not satisfy the statutory requirements for the granting of such permits.

Section 104 of the Act (42 U.S.C. 2134, *infra*, pp. 50-52) authorizes the Commission to license reactors for various purposes, including "research and development activities leading to the demonstration of the practical value of such facilities for industrial or commercial purposes." Section 185 of the Act (42 U.S.C. 2235, *infra*, p. 55) provides that reactors shall be constructed pursuant to construction permits and that, upon the completion of construction and if certain specified conditions are met, an operating license will be issued. The Commission has promulgated detailed

regulations governing the issuance of both construction permits and licenses (see 10 CFR, Part 50).

I. The administrative proceedings

On January 6, 1956, Power Reactor Development Company ("PRDC")^{*} submitted an application for a "license to design, construct, and operate a developmental fast neutron breeder reactor" at Lagoona Beach, Michigan, about 30 miles southwest of Detroit (Tr. 516-5127). A power reactor is a complex plant which produces electricity by harnessing the thermal energy of atomic fuel in a controlled nuclear fission chain reaction, in the same way that conventional generating facilities utilize the energy released when coal or other fuels are burned. The fact that the nuclear fission in a power reactor is controlled distinguishes such reactor from the atomic bomb, which involves an *uncontrolled* very rapid chain reaction, in which tremendous quantities of energy are released in a few millionths of a second. Because of this basic difference, "it is impossible that the reactor could ever explode like an atomic bomb" (Tr. 3960, 3974-3975; see note 14, *infra*, p. 17). There has been a "perfect record of safety of the regularly operating reactors" (Tr. 4854).

The "fast breeder" reactor proposed by PRDC is one of the types described to Congress, during the hearings on the Atomic Energy Act of 1954, as a pos-

* PRDC is a non-profit membership corporation composed of utility and industrial companies (Tr. 3922, 6990), organized in 1955 "to study, develop, design, fabricate, construct and operate one or more experimental nuclear power reactors * * * to the end that there may be an early demonstration of the practical and economical use of nuclear energy for the generation of electric energy * * *" (Tr. 5137-5138).

sible method for economic production of electricity from atomic power.⁵ The special characteristic of such a reactor is that, while producing power (from the heat of nuclear fission in the reactor core), it will also produce more fissionable material usable as a reactor fuel (by the capture of neutrons in a blanket of nonfissionable material surrounding the core) than it consumes (Tr. 6972-6975). Since the success of a fast breeder reactor will increase the nuclear fuel available from natural sources more than a hundred times, it is one of the most "promising" approaches to feasible atomic power at the present time and its success seems "indispensable" to the future development of the widespread use of such power. See Tr. 3958-3959, 4083-4085, 4124-4128, 7021.

As authorized by Section 189 of the Act as it then stood (68 Stat. 955) and its regulations (10 CFR 2.102), the Commission issued a provisional permit to PRDC without a hearing,⁶ subject to the right of

⁵ See Hearings on S. 3323 and H.R. 8862 before the Joint Committee on Atomic Energy, 83d Cong., 2d Sess., pp. 493-494, 565, 568, 2 Legislative History of the Atomic Energy Act of 1954 (hereinafter cited as "Leg. Hist.") 2127-2128, 2203, 2206; 100 Cong. Rec. 10432-10433, 3 Leg. Hist. 3253-3254. If licensed to operate, the PRDC plant would be the first privately owned large-scale fast breeder power reactor in this country. A Commission-owned experimental breeder reactor was successfully used for the production of electric energy in 1951 (S. Rep. 1699, 83d Cong., 2d Sess., p. 3; 1 Leg. Hist. 751).

⁶ Section 189 was amended in 1957 to provide for mandatory hearings upon applications for power and testing reactor licenses and construction permits (71 Stat. 579; S. Rep. 296, 85th Cong., 1st Sess., pp. 24-25; H. Rep. 435, 85th Cong., 1st Sess., pp. 24-25).

any interested party to request it.⁷ Petitions for intervention and for a hearing were filed by respondent unions and certain union officers (Tr. 6298-6336).⁸ The Commission granted intervention and set the matter for hearing (Tr. 6359). A lengthy hearing was held, and the record was then certified to the Commission. After hearing oral argument, the Commission issued an opinion and initial decision affirming and continuing in effect the construction permit, with amendments (Tr. 6846-6894). Following the filing of exceptions and further briefs, the Commission issued an opinion and final decision (Tr. 6933-7033), which "amplif[ied] and affirm[ed]" its initial decision (Tr. 6934).

II. The Commission decision

The Commission rejected the unions' contention that "the same findings, with respect to safety * * * for issuance of an operating license are necessary for

⁷ The permit made various findings and declared that conversion to an operating license was subject to submission of a final Hazards Summary Report showing that the health and safety of the public would not be endangered by operation of the reactor. The permit stated that upon such a submission, the completion of the reactor in accordance with the permit, the filing of additional information, a finding of compliance with the Act and regulations, and in the absence of any good cause being shown why the granting of a license would not be in accordance with the Act, the Commission would issue a license for 25 years (Tr. 6294-6295).

⁸ The petitions asserted that the permit "will result in the construction of a reactor which, under present technological conditions, is inherently unsafe," and which would "imperil and destroy" lives, properties and places of employment, and adversely affect real estate and other property values and property rights (Tr. 6301-6302, 6316, 6326-6327).

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issuance of a provisional construction permit" (Tr. 6939), and that no construction permit could be issued "unless there is sufficient foundation in the record now for the issuance of a license to operate" (Tr. 6952). The Commission pointed out (Tr. 6946-6947) that Section 185 of the Act distinguishes between construction permits and licenses, and that "under the statute, a construction permit is a step toward a license rather than the equivalent thereof" (Tr. 6950). It held (Tr. 6953-6954) that the Act, the legislative history, the state of development of the industry, and the Commission's own regulations fully justified the distinction between the grounds required for issuance of a construction permit and an operating license.

The Commission stated that, at the present developmental stage of atomic power reactors, the only practical approach is that provided by Section 50.35 of its regulations (10 CFR 50.35, *infra*, pp. 61-62), namely, to issue a provisional construction permit based on findings of a reasonable assurance that a reactor of the general type can be safely constructed and operated at the proposed site and that safety problems can be resolved; and to require continuing research and study which will establish, before operation is authorized, that the reactor in its final design can be operated without undue risk to public health and safety (Tr. 6957-6964, 6977-6978, 6980, 6983-6984). The Commission, in the precise terms required by its regulation, found reasonable assurance that a reactor of the general type proposed by PRDC can be constructed and operated at the proposed site without

undue risk to the public health and safety, and that technical information required to complete the PRDC application—and thus definitely establish safety of operations—will be supplied (Tr. 6971, 6983-6986, 7015-7020, 7022-7023). It found that there were no inherent hazards or insoluble problems in the construction or operation of fast breeder reactors (Tr. 6983, 7015), and that there was reasonable assurance that further research would demonstrate that the PRDC reactor (with design modifications, if necessary) can be operated at Lagoona Beach, Michigan, without undue risk to the public health and safety (Tr. 6971, 6984-6985, 7019-7020, 7022-7023). The Commission rejected the unions' contention that "the heavy investment in the reactor always will generate irresistible pressure for its operation so as to protect the investment itself," and that "construction of the reactor inevitably means its operation in this case" (Tr. 6954).

The amended construction permit set forth its provisional character and listed the various findings (including those on safety) which will be required before an operating license will be issued (Tr. 7030-7031). The amended permit stated that it did not constitute final approval of any technical specification, which approval would be required before an operating license is issued (Tr. 7028). Finally, the Commission expressly reserved jurisdiction to reopen the proceeding for further evidence and for consideration of data pertinent to safety, at any time prior to the issuance of an operating license (Tr. 7026, 7031). The Commission stressed that it will not

issue an operating license unless, after another full hearing, it is satisfied that operation will satisfy the Act's safety criteria (Tr. 6938, 6956, 6983, 6987, 7024, 7028, 7030-7031). It emphasized (Tr. 6952) that "public safety is the first, last and a permanent consideration in any decision on the issuance of a construction permit or a license to operate a nuclear facility."

III. The decision of the court of appeals

A majority of the court of appeals set aside the Commission's grant of the construction permit. The court ruled that the respondent unions had standing to maintain the action, and that the Commission's grant of the permit was invalid because "(1) the Act requires the agency, when it grants a construction permit, to make the same findings of safety of operations that it must make before granting an operating license; (2) that the Commission's safety findings were ambiguous because they failed to state "a positive opinion regarding safety of operations"; and (3) that such findings are deficient "in an additional respect," namely, that the Commission did not make the further finding, which the court construed the Act to require, that there were "compelling reasons" for locating the reactor near a heavily populated area "where it will expose so large a population to the possibility of a nuclear disaster" (App. *infra*, pp. 32-45).

In his dissent, Judge Burger concluded that the court should not have reached the merits of ultimate safety of operation of the PRDC plant. He pointed

out that this issue had been deferred by the Commission until after further administrative steps designed to assure safety, and he disagreed with the majority's view that a "*future possibility*" that an operating permit will be unlawful and improperly issued by the Commission creates a "present," "immediate" and "unavoidable threat" of injury." (App. *infra*, pp. 45-46). In addition, Judge Burger stated that a "step by step" review and approval of reactor design was a necessity in the present developmental state of nuclear technology and that the majority's reversal of this procedure went "beyond the established limits of judicial review." He further stated that the majority, in its ruling on reactor location, was "undertaking to assume responsibilities which Congress vested in the Commission" when it made "a finding of 'nuclear disaster' directly opposed to the finding which the Atomic Energy Commission made." (App. *infra*, pp. 46-49).

Petitions for rehearing *en banc* were filed by the Government and PRDC, and were denied (Judges Miller and Bastian dissenting, and Judges Washington and Burger not participating) (App. *infra*, pp. 66-67).

REASONS FOR GRANTING THE WRIT

This is a case of major national importance to the administration and implementation of this country's long-range program for the development of the peaceful uses of atomic energy. In the first judicial interpretation of the licensing provisions of the Atomic Energy Act of 1954, a sharply-divided court of appeals has set aside the Atomic Energy Com-

mission's grant of a permit for the construction of a developmental atomic reactor for the production of electric power. The two principal grounds of that decision—that the Commission cannot locate such a reactor near a heavily populated area unless it finds "compelling reasons" therefor, and that, in approving the construction of the reactor, the Commission must make the same findings as to the safety of its ultimate operation as it would have to make before it could license such operation—would seriously impede and, in significant areas, might even block, the programs and policies that the Atomic Energy Commission has carefully developed in this important area of national scientific achievement.

To date, the Atomic Energy Commission has licensed the construction of nine developmental power reactors (including the instant one). In each case, the site of the proposed reactor has been approved by the Commission after full consideration of the pertinent statutory criteria for safety of operation, but without making any finding of "compelling reasons" in the several cases in which the reactor site is located a comparable distance from a populated area.⁹ Similarly, in each case the Commission, in accordance with a long-standing regulation (10 CFR 50.35), granted a construction permit on the same terms as here involved, namely, construction was authorized upon

⁹ A listing of power reactors now operating or being constructed, and distances from nearby population centers, is set out in the Appendix *infra*, pp. 62-64. There are also numerous small research reactors operated by universities and other institutions in metropolitan areas.

findings of reasonable assurance that a reactor of the general type proposed can be constructed and operated at the proposed site without undue risk to the public health and safety and that information required to complete the application—and thereby establish the safety of the particular reactor's final design—will be supplied. The authorization was subject to further proceedings, upon completion of construction, in which safety of operation would have to be established before an operating license would issue.

The decision below, which without referring to Regulation 50.35 implicitly invalidated it, necessarily raises serious question as to the validity of the construction of these eight other power reactors. Moreover, it will inevitably have a seriously discouraging effect on the development of future atomic power projects. Finally, the PRDC reactor is itself an important factor in the national program to develop practical atomic power, and its validity, therefore, itself presents an important question. In view of the clear importance of these issues to the national welfare, and since, as we now show, the decision below is erroneous in several important respects, review by this Court is plainly called for.

I

The basic scheme of the Atomic Energy Act of 1954 is to establish general conditions for the protection of public health and safety, but to leave to the Commission the implementation thereof through its rule-making authority. Thus, Section 3(d) lists as one of the Act's purposes the provision of a "program to en-

courage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent * * * with the health and safety of the public." Section 182 provides that an applicant for a reactor operating license shall submit such information as "the Commission may, by rule or regulation, deem necessary in order to enable it to find that the utilization or production of special nuclear material * * * will provide adequate protection to the health and safety of the public." See, also, Section 103(b). Similarly, Section 104(b), which governs the licensing of developmental power reactors such as that of PRDC, directs the Commission to "impose the minimum amount of such regulations and terms of license as will permit the Commission to fulfill its obligations * * * to protect the health and safety of the public * * *." Finally, Section 161(b) authorizes the Commission to "establish by rule, regulation, or order, such standards and instructions to govern the possession and use of special nuclear material, source material, and byproduct material as the Commission may deem necessary or desirable * * * to protect health or to minimize danger to life or property," and Section 161(i) authorizes it to "prescribe such regulations or orders as it may deem necessary * * * (3) to govern any activity authorized pursuant to this Act, including standards and restrictions governing the design, location, and operation of facilities used in the conduct of such activity, in order to protect health and to minimize danger to life or property."

Pursuant to this legislative design, the Commission has promulgated numerous regulations designed to insure that all phases of atomic power development and use, including the construction and operation of nuclear reactors, will fully "protect health and * * * minimize danger to life or property" (Section 161(i) (3), *supra*) and be "consistent * * * with the health and safety of the public" (Section 3(d), *supra*). Of course, as the Commission here pointed out (Tr. 6984), the site of the reactor is an essential consideration in determining the safety of the proposed project, and on occasion unfavorable site characteristics have required relocation or abandonment of projects.¹⁰ However, in determining the ultimate overall safety of the project, the Commission considers location along with other pertinent factors. These include the reactor type (the range of neutron energies, enrichment of fuel, structural materials, coolant and moderator), the reactor power level, the pressure and temperature at which the reactor will be operated, the control and safety devices, the shielding and the containment. Here, on the basis of all these factors, including the site, the Commission found that the safety standards were met.

We submit that this treatment of the problem by the Commission—safety determination based upon all the significant considerations involved—fully satisfies the safety standards of the Act, and that there is no basis for the court of appeals' engrafting on to the Act the additional standard that no reactor can be

¹⁰ See, e.g., *City of Piqua, Ohio*, A.E.C. Docket No. PP-2; Point LOMA Process Heat Reactor, Report of Advisory Committee on Reactor Safeguards, March 14, 1960.

located close to "so large a population" unless there are "compelling reasons" for doing so (App. *infra*, p. 44). There is no such language or concept in the Act, and the court below offered no explanation of what this phrase means or what standards are to be used in applying it.

(a) The legislative history shows that Congress recognized that the protection of public health and safety was one of the areas of "special competence" and "responsibility" of the Commission (100 Cong. Rec. 10079, 3 Leg. Hist. 3103), and that Congress believed that, by giving the Commission broad discretion in this field, "greater private participation in power development need not bring with it attendant hazards to the health and safety of the American people." S. Rep. 1699, 83d Cong., 2d Sess., p. 3, 1 Leg. Hist. 751; H. Rep. 2181, 83d Cong., 2d Sess., p. 3, 1 Leg. Hist. 999. The legislative history further shows that Congress contemplated that the safety regulation it was committing to the Commission's discretion included supervision of the location of reactors.¹¹

Moreover, the legislative history indicates that Congress understood that many power reactors (like conventional utility facilities) would be constructed and operated near the power-consuming "metropolitan and industrial centers."¹² Such locations were implicit in the President's prediction of an industry to be "as nearly normal as possible," while regulated for

¹¹ Hearings on S. 3323 and H.R. 8862 before the Joint Committee on Atomic Energy, 83d Congress, 2d Sess., p. 118, 2 Leg. Hist. 1752.

¹² Hearings, *supra*, p. 582, 2 Leg. Hist. 2220.

security and safety (H. Doc. 328, 83d Cong., 2d Sess., pp. 6-7, 1 Leg. Hist. 50-51), and in the clear legislative intent to chart a course for atomic power reactors as "an integral part of the electric-generating activities of the country." (Fn. 12, *supra*). Indeed, one of the basic purposes of the Atomic Energy Act of 1954 was to foster progress in atomic power development by encouraging the widespread participation of private industrial and utility companies and publicly-owned utilities.¹³ Effective participation by utilities, however, may be impossible if, as the decision below suggests, large power reactors cannot be located near the utilities' urban service areas. It would not be feasible to locate reactors designed to serve urban areas in remote parts of the country.

Congress anticipated that reactors might be located close to metropolitan centers during the initial developmental stage of atomic power. As an example of such development, there were repeated references to the Shippingport Pressurized Water Reactor, then being constructed about 30 miles from the center of Pittsburgh—"the Nation's first large-scale atomic-power reactor, which will generate 60,000 kilowatts of electricity—an amount sufficient to furnish light and power for a sizable city." S. Rep. 1699, 83d Cong., 2d Sess., p. 3, 1 Leg. Hist. 751; H. Rep. 2181, 83d Cong., 2d Sess., p. 3, 1 Leg. Hist. 999. And Senator Kennedy testified in favor of the location

¹³ See Sections 1(b), 3 (a), (d), 182 (c), (d), 42 U.S.C. 2011, 2013 (a), (d), 2232 (c), (d). H. Doc. 328, 83d Cong., 2d Sess., pp. 6-7, 1 Leg. Hist. 50-51; S. Rep. 1699, 83d Cong., 2d Sess., pp. 3, 9, 1 Leg. Hist. 751, 757; H. Rep. 2181, 83d Cong., 2d Sess., pp. 3, 9, 1 Leg. Hist. 999, 1005.

of "pilot plant activity" and "experimental plants" in New England, where eventual commercial feasibility could be anticipated. Hearings, *supra*, pp. 774-780, 2 Leg. Hist. 2412-2418. See, also, as to New York State, 100 Cong. Rec. 10910, 3 Leg. Hist. 3461.

In the light of the broad discretion given to the Commission to deal with safety, including the location of reactor sites, and the recognition by Congress that reactors would be located near metropolitan areas, we submit that, had Congress intended to impose the condition that reactors could be located near populated areas only upon a showing of "compelling reasons," it would have said so in clear and specific terms. Nothing in the "Congressional concern for safety," to which the court below referred, justifies the court's conclusion that "Congress intended no reactor should," without such reasons, be located near a populated area (App. *infra*, p. 44).

(b) There is no basis in this record for the court's finding (*ibid.*) that the location of the PRDC reactor approximately 30 miles from Detroit will "expose" a large "population to the possibility of a nuclear disaster."¹⁴ The Commission's findings, the eviden-

¹⁴The court below may have been under a misapprehension of what hazards are presented by the operation of a power reactor. In a reactor, heat is generated by a *controlled* fission chain reaction. As an eminent scientist, Dr. Hans Bethe, testified, an accident in a reactor would be "at the worst, comparable to a boiler explosion" and "it is * * * impossible that the reactor ever explode like an atomic bomb. There is no way in which this could ever happen. The hazards we are speaking of in nuclear reactors do not lie in any violent explosion, but in the possibility that the radioactive fission products which have been formed by the operation of the reactor get

tiary basis of which was neither challenged on review nor overturned by the court, are to the contrary (see *supra*, pp. 7-8). The two items on which the court relied for its conclusion were general statements about hypothetical incidents in hypothetical plants made in 1956 and 1957 to support the need for indemnity insurance and design precautions.¹⁵ In no way do they undermine or invalidate the Commission's findings that there was reasonable assurance that a reactor of this general type could be operated at this site "without undue risk to the public health and safety" and that the PRDC reactor's final design will be shown to be safe (see pp. 7-9, *supra*).

released into the atmosphere and thereby cause a radiation hazard for the surrounding area." Tr. 3960, 3974-3975. Dr. Bethe further explained that protection against such "extremely remote possibilities" (Tr. 3961) is provided by various inherent features of reactors, safety devices, and shielding and containment (Tr. 3960-3979).

¹⁵ The first item cited, a 1957 report of the Commission (App. *infra*, p. 43-44), was an appraisal of the extreme consequences of hypothetical incidents, prepared as a background for legislative action to provide Government indemnity to licensees, now Section 170 of the Act, 42 U.S.C. 2210. It did not probe the possibility or probability of the occurrence of nuclear incidents. The alleged "[u]ndisputed testimony before the Commission" (App. *infra*, p. 44) was a quotation from the testimony at the 1956 Congressional hearings on the indemnity legislation by Dr. C. Rogers McCullough, former Chairman of the Commission's Advisory Committee on Reactor Safeguards, read into the record of this case at Tr. 3001. In 1956, Dr. McCullough referred to the "possibility" of widespread injury as the ground for taking unusual precautions in reactor design, maintenance and operation to prevent any incident, as had been successfully done. Hearings on Governmental Indemnity before the Joint Committee on Atomic Energy, 84th Cong., 2d Sess., pp. 47-50.

(c) Respondent unions presumably will urge, as they did in opposing rehearing *en banc* below, that the court's holding of "compelling reasons" does not have the broad reach that we ascribe to it. On the face of the opinion, however, the court not only purported to, but in fact did, lay down the general rule, "that Congress intended no reactor should, without compelling reasons," be located close to a populated area. This statement was not merely dictum, since it was one of two expressed grounds upon which the court set aside the Commission's "findings regarding safety of operations" as "not sufficient" and "deficient" (App. *infra*, pp. 39, 43, 45).

II

This case presents a second question crucial to the reactor licensing program—the validity of the standards of operating and construction safety employed by the Commission in authorizing construction of developmental reactors. Construction permits for each of the nine licensed developmental power reactors and most of the research and testing reactors have been issued "on a provisional basis" pursuant to Section 50.35 of the Commission's regulations (*infra*, pp. 61-62). This regulation authorizes issuance of a construction permit on the basis of "information sufficient to provide reasonable assurance that a facility of the general type proposed can be constructed and operated at the proposed location without undue risk to the health and safety of the public and that the omitted information will be supplied." Conversion of this permit to an operating license is contingent upon later production of the omitted information "and

an evaluation by the Commission that the final design provides reasonable assurance that the health and safety of the public will not be endangered." See the Commission's opinion, *supra*, pp. 7-8.

The use of such construction permits was, in effect, invalidated when the court below held, without citing Section 50.35 of the regulations, that the Commission "must" make the same findings on the safety of reactor design and operation "when it authorizes construction" as "when it authorizes operation" (App. *infra*, p. 36). While Section 50.35 requires only a finding as to the safety of the "general type" of facility proposed, the court of appeals decision would require the Commission, before it can authorize the construction of a reactor, to make a definitive finding as to the safety of the ultimate operation of the particular "reactor * * * proposed by Applicant" (App. *infra*, pp. 36, 41). In the present state of scientific development, however, the Commission frequently cannot make a final determination as to operating safety of a reactor design prior to completion of construction. We submit that the Act does not require the Commission to do so, and that its present two-stage authorization fully satisfies the statutory requirements.¹⁶

¹⁶ A subsidiary question is presented by the holding of the court below—which we think erroneous—that the Commission's findings on safety of operation were "ambiguous." The court contrasted what it believed to be the Commission's "repeated expressions of uncertainty" and "positive opinion regarding safety of operation" (App. *infra*, pp. 41-43). The court did not refer to Section 50.35 of the Commission's regulations which specifically provides for the two types of findings made here—a present finding on the general type of reactor (the "positive opinion") and a tentative conclusion as the eventual demonstra-

(a) Provisional construction permits are now necessary since, in the present developmental stage of atomic energy, all large-scale power reactors (and most others) are substantially unique in design. The result is that, in the language of Regulation 50.35, "an applicant is not in a position to supply initially all of the technical information otherwise required to complete the application." By permitting construction to proceed simultaneously with the completion of research and development, the procedure of Section 50.35 saves several years on each project, as was found here (Tr. 7022). Furthermore, the process of testing and verifying design and operating techniques during construction, involving "a sort of combined construction and research and development and necessary dovetailing of these things", is basic to technological advances and assures improved design for ultimate safety of operation (Tr. 3278, 6983). As Judge Burger pointed out in his dissent (*App. infra*, pp. 46, 48), progress in this area must, necessarily, be "step by step." A rigid requirement of prior design approval, however, would seriously delay each new major developmental project; would discourage reactors incorporating "major advances" (like PRDC's, Tr. 7015-7016), which are given priority under Section 104(b); and would lead to duplication of existing designs—all contrary to the Congressional purpose and the scientific and administrative realities of attaining

tion of the safety of a final design in the light of the applicant's research and development program (the alleged "expressions of uncertainty"). If certiorari is granted, we shall argue that the findings are not ambiguous.

practical atomic power that is competitive with power obtained from other sources.

The Commission's practice fully satisfies the Act's safety requirements. Under that practice, safety is assured by the initial determinations made under 10 CFR 50.35, followed by the later stringent scrutiny of the final design prior to actual licensing of operations. At both stages, a public hearing is held. Ultimate safety of operations would not be increased by requiring the Commission to make a definitive safety determination before it issues a construction permit. For in the swift-moving technology of atomic reactors, the Commission can best determine the design safety of new facilities by continuous examination throughout the construction period, with final approval or disapproval withheld until completion of construction. The Commission thus permits the safety of a particular reactor to be determined on the basis of all scientific developments that occur up to the final decision on licensing of operation, and will not license operation unless and until safety standards are satisfied.

(b) The validity of the Commission's practice, and the regulation upon which it is based, is, we submit, fully sustained by both the language of the Act and its legislative history and purpose. They show (1) that Congress did not impose any requirement that ultimate operating safety be definitely determined when a construction permit is granted, but left it to the Commission to work out, through appropriate regulations, the best method for implementing the basic statutory requirement (Sections 104(b), 182(a)) that there be "adequate protection to the health and safety

of the public" before operation is authorized; and (2) that it was understood, when the Act was passed in 1954, that the grant of a construction permit would not insure the subsequent grant of an operating license, and that the Commission would not authorize operation unless it then found that the safety requirements were met.

Section 185 of the Act (*infra*, p. 55) provides for both construction permits and operating licenses. No standards are prescribed for the former; the Commission is directed to issue a construction permit "if the application is otherwise acceptable to the Commission." In the case of operating licenses, however, standards are prescribed. An operating license is to be issued only (1) "[u]pon the completion of the construction * * * of the facility," (2) "upon the filing of any additional information needed to bring the original application up to date," (3) "upon finding that the facility authorized has been constructed and will operate in conformity with" the amended application and appropriate statutory provisions and regulations, and (4) "in the absence of any good cause being shown to the Commission why the granting of a license would not be in accordance with the provisions of this Act."

These provisions—particularly the requirements of "good cause" and future operation "in conformity with" law—were designed to assure that the statutory criteria for ultimate safe operation were met before operation is authorized, and to give the Commission discretion in formulating appropriate safety standards for the construction permit stage of licens-

ing. They cannot fairly be read as requiring the Commission to make the same findings "regarding safety of operation" (App. *infra*, pp. 36, 39) in order to grant a construction permit as the agency is required to make in granting a final operating license. This conclusion is further supported by Section 182(a) (*infra*, p. 53, emphasis added), which provides that applicants for "licenses to operate production or utilization facilities" shall submit such "technical specifications" and "other information" as the Commission may require in order to find that the proposed operation "will provide adequate protection to the health and safety of the public." Had Congress intended the same standards also to be applicable under Section 185 to the grant of construction permits—which explicitly provide authority "to construct or modify" (but not to operate)—it would have said so.

The Act was so understood at the time of its passage. It was recognized that Section 185 represented a deliberate departure from the scheme of the Communications Act of 1934, under which all definitive decisions with respect to the application before it are made when the agency issues a construction permit.¹⁷ Certain industry spokesmen pro-

¹⁷ Compare the "good cause" provision of Section 185 with Section 319(c) of the Communications Act, 47 U.S.C. 319(c), which requires issuance of an operating license to the holder of a construction permit unless a "cause or circumstance arising or first coming to the knowledge of the Commission since the granting of the permit would *** make the operation of such station against the public interest." The Communications Act was clearly the point of departure for the drafting of Section 185. See Hearings on S. 3323 and H.R. 8862 before the Joint Committee on Atomic Energy, 83d

tested the "good cause" provision of Section 185 and vainly sought its deletion, urging that all "fundamental" determinations should precede construction, and that issuance of a license should be assured when construction is completed. Hearings on S. 3323 and H.R. 8862 before the Joint Committee on Atomic Energy, 83d Cong., 2d Sess., pp. 113, 117-119, 226-227, 417, 2 Leg. Hist. 1747; 1751-1753, 1860-1861, 2051. Congress, however, rejected this proposal, and instead left it to the Commission to select an appropriate method for implementing the statutory directive (Section 104(b), *infra*, pp. 50-51) that in licensing the operation of developmental reactors the Commission shall "fulfill its obligations under this Act * * * to protect the health and safety of the public * * *." The provisional construction permit system, provided by Section 50.35 of the regulations under which final operating authority is not granted unless and until operating safety is established, is a valid implementation of the Congressional design.

Moreover, the Commission repeatedly has informed Congress of its use of provisional construction permits and the compelling reasons therefor, beginning before promulgation of 10 CFR 50.35 in 1956.¹⁸ In

Cong., 2d Sess., pp. 117-118, 2 Leg. Hist. 1751-1752; Marks & Trowbridge, *Framework for Atomic Industry*, p. 76 (1955); Green, *The Law of Reactor Safety*, 12 Vanderbilt L. Rev. 115, 122.

¹⁸ Hearings on Development, Growth, and State of the Atomic Energy Industry before the Joint Committee on Atomic Energy, 84th Cong., 2d Sess., pp. 106, 133, Tr. 6959, 6961; Hearings on Governmental Indemnity before the Joint Committee on Atomic Energy, 84th Cong., 2d Sess., pp. 62-65; Hearings on Development, Growth, and State of

view of the "subsequent and continuing action by the Congress" in the atomic energy field, and particularly, the close relation prescribed by Section 202 of the Act between the Commission and the Joint Committee on Atomic Energy, "[s]uch a record constitutes ratification of administrative construction."

Ivanhoe Irrigation District v. McCracken, 357 U.S. 275, 292-294; *Panama Canal Co. v. Grace Line, Inc.*, 356 U.S. 309, 318-319; *Brooks v. Dewar*, 313 U.S. 354, 361.

(c) The court of appeals held (App. *infra*, p. 39), however, that two items of legislative history made it "doubtful" whether the Commission's construction of the Act is valid, and then resolved that doubt against the Commission because the "possibilities of harm are so enormous." Apart from the fact that this approach to statutory construction disregards the settled principle that an agency's interpretation of its own Act is entitled to great weight, we submit that neither of these two items raises any substantial doubt as to the correctness of the Commission's construction.

The principal item relied upon was a colloquy between Senators Humphrey and Hickenlooper, during which Senator Humphrey withdrew a proposed

the Atomic Energy Industry before the Joint Committee on Atomic Energy, 85th Cong., 2d Sess., pp. 119-121, 123, Tr. 6962-6964; Hearings on Operation of AEC Indemnity Act before the Joint Committee on Atomic Energy, 85th Cong., 2d Sess., pp. 56-57. See also *A Study of AEC Procedures and Organization in the Licensing of Reactor Facilities*, Joint Committee on Atomic Energy, 85th Cong., 1st Sess. (Joint Committee Print, 1957).

amendment to Section 185 which would have required that "no construction permit shall be issued by the Commission until after the completion of the procedures established by Section 182 for the consideration of applications for licenses under this act." He did so upon being assured by Senator Hickenlooper that "the revised sections on judicial review and on hearings and the revised section 182 on license application all apply directly to construction permits." App. *infra*, pp. 37-38. However, the context of this discussion, like the remainder of the debate in Congress over these sections, shows that it had nothing to do with the safety provisions of Section 182(a). It related to the provisions in Sections 182(e) and (d) and 189, which require that notice of hearing on applications for construction permits be given to municipalities, public bodies and cooperatives, give these groups the right to judicial review in such proceedings, and guarantee them certain preferences in licensing. See, e.g., 100 Cong. Rept. 11566, 10397, 10398, 11754, 3 Leg. Hist. 3759, 2848, 2849, 3877; S. Rept. 1699, 83d Cong., 2d Sess., pp. 121-123, 1 Leg. Hist. 869-871; H. Rept. 2181, 83d Cong., 2d Sess., pp. 121-123, 1 Leg. Hist. 1117-1119.

The court also relied (App. *infra*, p. 39) on the statement in the Joint Atomic Energy Committee report on the bill that Section 185 "requires the issuance of a license if the construction is carried out in accordance with the terms of the construction permit." But, as we have shown (*supra*, pp. 23-24), this is only one of the conditions in Section 185 for the granting of an operating license, and other conditions

therein clearly require the Commission to make the necessary safety findings at that time. Moreover, one of the terms of every construction permit for a reactor, including this one, is that before an operating license is granted the Commission must find that operation will not endanger "the health and safety of the public" (Tr.7030).

III

A third significant error committed by the court below was its preliminary ruling (App. *infra*, pp. 33-35) that respondent unions were "aggrieved" by the issuance of the construction permit, and therefore had standing under 5 U.S.C. 1032 to challenge it. This ruling, we believe, conflicts with settled principles governing standing to review administrative orders.

The court below pointed out (App. *infra*, p. 34) that the unions' claim to standing was not that construction itself would cause injury, but that "construction would cause operation, and operation would cause injury." It held this claim sufficient to establish standing, on the theory that "it is plainly probable, in a high degree, that if the construction permit stands PRDC will get an operating license and will operate" (App. *infra*, p. 35). However, there is a crucial gap in this reasoning.

The court of appeals made no finding, nor could it, that there was any probability that the Commission would issue a license to operate under hazardous conditions. On the contrary, the record is clear and uncontradicted that no operating license can or will be

issued until after the completion of further administrative proceedings devoted to a stringent scrutiny of the final PRDC design, necessarily developed in part during the construction phase of the project. See *supra*, pp. 8-9. Petitioners can participate fully as intervenors in such future proceeding, and will be able to seek review of any future order authorizing an operation which they challenge as hazardous. As Judge Burger declared in dissent, petitioners have established only a "future possibility" of aggrievement in the unlikely event that an operating license "will be unlawfully and improperly issued," contrary to the Commission's statements (App., *infra*, p. 46).

On this point, the decision below is inconsistent with the decisions of this Court that administrative determinations are reviewable only when the alleged impact is "immediately pressing," not "remote or speculative," or contingent upon future agency action. *Eccles v. Peoples Bank*, 333 U.S. 426, 431-435; *Public Service Commission v. Wycoff Co.*, 344 U.S. 237, 242-246; *Chicago & Southern Air Lines v. Waterman Steamship Corp.*, 333 U.S. 103, 112-113.

CONCLUSION

For the foregoing reasons, this petition for a writ of certiorari should be granted.

Respectfully submitted.

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Attorney, Atomic Energy Commission.

SEPTEMBER 1960.

APPENDIX

UNITED STATES COURT OF APPEALS FOR THE DISTRICT
OF COLUMBIA CIRCUIT

No. 15271

INTERNATIONAL UNION OF ELECTRICAL, RADIO AND
MACHINE WORKERS, AFL-CIO; UNITED AUTOMOBILE,
AIRCRAFT AND AGRICULTURAL IMPLEMENT WORKERS
OF AMERICA; AND UNITED PAPERMAKERS AND PAPER-
WORKERS, PETITIONERS

v.

UNITED STATES OF AMERICA AND ATOMIC ENERGY
COMMISSION, RESPONDENTS

POWER REACTOR DEVELOPMENT COMPANY, STATE OF
MICHIGAN, INTERVENORS

On Petition to Review an Order of the Atomic Energy
Commission

Decided June 10, 1960

Mr. Benjamin C. Sigal for petitioners:

Mr. Lionel Kestenbaum, Attorney, Atomic Energy
Commission, with whom *Assistant Attorney General
Doub*, *Messrs. Loren K. Olson*, General Counsel,
Atomic Energy Commission, *Curtis Oulahan*, Special
Assistant to the General Counsel, Atomic Energy Com-
mission, and *Samuel D. Slade*, Attorney, Department
of Justice, were on the brief, for respondents.

Mr. W. Graham Claytor, Jr., with whom *Mr. John Lord O'Brian* was on the brief, for intervenor Power Reactor Development Company.

Mr. Jerome Maslowski entered an appearance for intervenor State of Michigan.

Before EDGERTON, BAZELON, and BURGER, *Circuit Judges*.

EDGERTON, Circuit Judge: Petitioners seek review of the Atomic Energy Commission's Order of May 26, 1959 which continued in effect, with amendments, a "provisional" construction permit issued August 4, 1956, for a nuclear power reactor. Section 104b of the Atomic Energy Act of 1954 authorizes the Commission to issue licenses for "utilization and production facilities involved in the conduct of research and development activities leading to the demonstration of the practical value of such facilities for industrial or commercial purposes. In issuing licenses under this subsection, the Commission shall impose the minimum amount of such regulations and terms of license as will permit the Commission to fulfill its obligations under this Act to promote the common defense and security and to protect the health and safety of the public * * *." 68 Stat. 937, 42 U.S.C. § 2134(b).

The holder of the construction permit, intervenor here, is the Power Reactor Development Company (PRDC), a Michigan membership corporation organized "to study, develop, design, fabricate, construct and operate one or more experimental nuclear power reactors * * * to the end that there may be an early demonstration of the practical and economical use of nuclear energy for the generation of electrical energy * * *." Of PRDC's 21 members, 14 are public utilities and 7 are equipment manufacturers.

The reactor will be the largest, but not the first, "fast breeder" reactor in the United States. The site

is at Lagoona Beach, Monroe County, Michigan, on the shore of Lake Erie, 30 miles southwest of Detroit.

PETITIONERS' STANDING

We cannot review the Commission's order at petitioners' request unless (1) it is a "final order" and (2) petitioners are "aggrieved" by it. Atomic Energy Act of 1954, § 189, 42 U.S.C. § 2239(b); 5 U.S.C. §§ 1032, 1034. Although the Commission's action of May 26, 1959 was entitled "Commission's Opinion, Final Decision and Order," the Commission and PRDC now contend that the order was not final. They also contend that it did not aggrieve the petitioners. In our opinion it was what it purported to be, a final order, and petitioners are "aggrieved" by it. Because it threatens them with economic injury, they "had the requisite standing to appeal and to raise * * * any relevant question of law in respect of the order * * *." *Federal Communications Commission v. Sanders Brothers Radio Station*, 309 U.S. 470, 477.

Petitioners are national or international labor unions which intervened, with some of their members, in the proceedings before the Commission, on the basis that "granting the conditional construction permit herein (1) is a violation of the provisions of the Atomic Energy Act of 1954, and the regulations pursuant thereto adopted by the Commission * * * and (2) will result in the construction of a reactor which, under present technological conditions, is inherently unsafe, and which will thereby create a hazard which will place the individual Intervenors, the members of the UAW and their families, and the UAW in danger of an explosion or other incident" damaging to the individuals and their homes, real estate values, and employment; that the value of collective bargaining

contracts "will be seriously impaired if the PRDC reactor is built in this area without reasonable assurances of safety"; and that there are "reasonable grounds for [b]elief that a license to operate said facility when it is completed, with an expenditure of \$45,000,000 will be issued without proper consideration of and regard for the health and safety of the public."

In their reply brief in this court, petitioners contend that "The fear of a possible atomic catastrophe, in itself, before any operation would begin, would, among other things have the effect of depressing values of property owned by the Petitioners, and would cause plants in which they work under collective bargaining agreements to move and thereby cause a loss of employment." Their reply brief asserts that "the uncontroverted allegations of their petition for intervention before the Commission set forth the economic injury they would suffer merely from the construction of the reactor itself." But we find no such allegations in their petition for intervention before the Commission. The theory of that petition was that construction would cause operation, and operation would cause injury, not that construction without operation would cause injury.¹ Judicial review is limited to the record before the Commission. 5 U.S.C. § 1037(a).

As the Commission says in its order, "a construction permit is a step toward a license rather than the equivalent thereof. * * * This permit is provisional to the extent that a license authorizing operation of the facility will not be issued by the Commission unless PRDC has submitted to the Commission (by

¹ It is undisputed that construction without operation will cause no *physical* injury or danger not involved in the erection of any large building.

proposed amendment to the Application) the complete, final Hazards Summary Report (portions of which may be submitted and evaluated from time to time), and the Commission has found that the final design provides reasonable assurance that the health and safety of the public will not be endangered by operation of the facility in accordance with the specified procedures. It is further provisional to the extent that the Commission reserves jurisdiction, at any time prior to issuance of an operating license, upon notice to the parties herein, to reopen this proceeding for the purpose of receiving additional evidence, and to make such determinations and take such action with respect to the continuance, vacation, or modification of this permit as the entire record warrants." But the order also says: "There is reasonable assurance that theoretical and experimental programs under way will develop sufficient data to justify the issuance of an operating license, and that the results of these programs will be available prior to the time it is necessary for the Commission to rule on the operating aspect of the PRDC license Application." PRDC says "it must be taken as settled * * * that the further technical information needed to complete the PRDC application for license will be supplied." Although this positive prediction overstates the matter, it is plainly probable, in a high degree, that if the construction permit stands PRDC will get an operating license and will operate. We think petitioners are therefore aggrieved by the issuance of the permit.

SAFETY FINDINGS REQUIRED BY THE ATOMIC ENERGY ACT

Petitioners contend that "The Act and the regulations of the Commission * * * require, as conditions precedent to the issuance of every construction permit

for an atomic energy power reactor, that *as of the time the construction permit is issued* the Commission find that (1) it has reasonable assurance that the reactor may be constructed *and operated* at the proposed site without undue risk to the health and safety of the public * * * ."

It is undisputed that the Commission must make such a finding when it authorizes operation. The question is whether it must make such a finding when it authorizes construction. In our opinion it must.

Section 182 of the Atomic Energy Act of 1954, which is headed "License applications", provides in paragraph (a): " * * * In connection with applications for licenses to operate production or utilization facilities, the applicant shall state such technical specifications, including * * * the place of the use * * * and such other information as the Commission may, by rule or regulation, deem necessary in order to enable it to find that the utilization or production of special nuclear material * * * will provide adequate protection to the health and safety of the public. Such technical specifications shall be a part of any license issued. * * *" 42 U.S.C. § 2232(a).

It seems to be unquestioned that the phrase used in § 182, "adequate protection to the health and safety of the public"; and the Commission's phrase, "without undue risk to the health and safety of the public," are substantially equivalent.

Section 185 of the Act, which is headed "Construction permits", provides: "All applicants for licenses to construct or modify production or utilization facilities shall, if the application is otherwise acceptable to the Commission, be initially granted a construction permit. * * * Upon the completion of the construction or modification of the facility, upon the filing of any additional information needed to bring the orig-

inal application up to date, and upon finding that the facility authorized has been constructed and will operate in conformity with the application as amended and in conformity with the provisions of this chapter and of the rules and regulations of the Commission, and in the absence of any good cause being shown to the Commission why the granting of a license would not be in accordance with the provisions of this Act, the Commission shall thereupon issue a license to the applicant. For all other purposes of this Act a construction permit is deemed to be a 'license'." 42 U.S.C. § 2235.

While the bill was pending, Senator Humphrey proposed, and withdrew, an amendment which would have added after the word "license", at the end of § 185: "and no construction permit shall be issued by the Commission until after the completion of the procedures established by Section 182 for the consideration of applications for licenses under this act." (100th CONG. REC. 11566 (1954); Legislative History of the Atomic Energy Act of 1954, Vol. III, p. 3759; Vol. I, p. 733) He said: "*The purpose of the amendment* when it was prepared *was to make sure that the construction of a facility was not permitted prior to the authorization of a license*, because had that been done what it would have amounted to would be getting an investment of a substantial amount of capital, which surely would have been prejudicial in terms of the Commission issuing the license. In other words, if the Commission had granted the construction permit for some form of nuclear reactor, and then the question of a license was not fully resolved, surely there would have been considerable pressure, and justifiably so, for the Commission to have authorized the license once it had authorized the permit for construction.

"The chairman of the committee tells me he has modified certain sections by the committee amendments to the bill, of which at that time I was not aware. *The chairman indicates to me that under the terms of the bill, as amended, the construction permit is equivalent to a license.* In other words, as I understand, under the bill a construction permit cannot be interpreted in any other way than being equal to or a part of the licensing procedure. Is that correct?" Senator Hickenlooper, the manager of the bill, replied: "The Senator is correct. The staff has worked on this matter. * * * A license and a construction permit are equivalent. * * * Therefore, we believe, and we assure the Senator, that *the amendment is not essential to the problem which he is attempting to reach.*" After some discussion of other sections of the bill, this colloquy occurred: "Mr. HUMPHREY. In other words, the revised sections on judicial review and on hearings and *the revised section 182 on license application all apply directly to construction permits?* Mr. HICKENLOOPER. Yes. Mr. HUMPHREY. With that statement, Mr. President, I withdraw my amendment. *The only purpose of the amendment was to clarify that section.* I am grateful to the chairman for having done it before the amendment was considered." [Emphasis added.] (100 CONG. REC. 11566; Legislative History, Vol. III, p. 3759.)²

If, as this indicates, § 182 applies "directly to" construction permits, when the Commission issues a construction permit it must "find that the utilization or production of special nuclear material * * * will provide adequate protection to the health and safety of

² The Commission apparently interprets this colloquy as concerning only the "procedural safeguards" of notice, hearings, and appeal. We cannot so understand it and cannot suppose the Senate so understood it.

the public"; or, in the Commission's phrase, that the facility can be "operated at the location proposed without undue risk to the health and safety of the public."

The Joint Committee on Atomic Energy said in its report on the bill: "Section 185 permits the Commission to issue construction permits to applicants for a production or utilization facility, describes the terms of the construction permit, and requires the issuance of a license if the construction is carried out in accordance with the terms of the construction permit." (S. Rep. No. 1699, 83d Cong., 2d Sess., 28 (1954); Legislative History, Vol. I, p. 776.) It seems certain that if the Act did not require, as a condition to the issuance of a construction permit, a finding that the proposed facility can be operated without undue risk to the health and safety of the public, the Act would not require the issuance of a license when the permitted construction is carried out.

At the very least it is doubtful whether the Commission's construction of the Atomic Energy Act is correct. The possibilities of harm are so enormous that any doubt as to what findings the Act requires, and any doubt as to whether the Commission made such findings, should be resolved on the side of safety.

THE COMMISSION'S SAFETY FINDINGS

In our opinion the Commission's findings regarding safety of operation are not sufficient.

An Initial Decision dated December 10, 1958, contains this unqualified finding: "22. The Commission finds reasonable assurance in the record that a utilization facility of the general type proposed in the PRDC application and amendments thereto can be constructed and will be able to be operated at the location proposed without undue risk to the health and

safety of the public." But in the Opinion and Final Decision which accompanied its order of May 26, 1959, by interpolating the phrase we emphasize, the Commission qualified the finding: "22. The Commission finds reasonable assurance in the record, *for the purposes of this provisional construction permit*, that a utilization facility of the general type proposed in the PRDC Application and amendments thereto can be constructed and operated at the location without undue risk to the health and safety of the public." [Emphasis added.] This is not a finding that a facility can be operated there without undue risk. It is a finding that there is sufficient likelihood that a facility can be operated there without undue risk so that, in the Commission's opinion, it is appropriate to issue a "provisional" construction permit. In our opinion such a finding does not meet the requirements of the Act.

The Commission made other statements which confirm the impression that it no longer found, as it had found in December, reasonable assurance that a facility can be operated at the location without undue risk. The Commission said: "The degree of 'reasonable assurance' with respect to safety that satisfies us in this case for purposes of the *provisional* construction permit would not be the same as we would require in considering the issuance of the *operating* license. * * * It has not been positively established that a fast breeder reactor of the general type and power level proposed by Applicant can be *operated* without a credible possibility of releasing significant quantities of fission products to the environment * * *." (Emphasis in original.) And again: "*For the purposes of a provisional construction permit*, there is reasonable assurance that a reactor of the general type described in the Application can be so designed that

no credible accident in the course of its operation is likely to result in the release of significant quantities of fission products into the atmosphere." (Emphasis added.)

The Commission expressed confidence that future scientific developments would enable it, in the future, to find that the reactor could be operated without undue risk. It said: "There is reasonable assurance that theoretical and experimental programs under way will develop sufficient data to justify the issuance of an operating license, and that the results of these programs will be available prior to the time it is necessary for the Commission to rule on the operating aspect of the PRDC license Application." "There is reasonable assurance that theoretical and experimental investigations which have been undertaken, together with operating experience on one or more of the EBR-I, EBR-II and Dounreay reactors, will establish definitively, prior to the scheduled completion date of the PRDC reactor, whether or not the reactor proposed by Applicant can be so operated"; i.e., whether it can be "operated without a credible possibility of releasing significant quantities of fission products to the environment." Again, "there is reasonable assurance that *evidence will establish* that the reactor proposed by Applicant can be so operated." [Emphasis added.] This clearly implies that *evidence does not now establish* that the reactor can be so operated. The Commission's predictions regarding the future course of scientific development do not in our opinion satisfy the requirement of the Act:

The Commission said: "It is in the nature of reactor design, although certainly not unique to it, that many features remain to be designed and demonstrated after construction is begun—and indeed some features redesigned and replaced after operation is under way. * * *

By proceeding with construction and further research and development simultaneously, rather than awaiting complete research and development results Applicant will save several years in the time required to place in operation its demonstration power reactor." As a matter of policy, there is force in these considerations. But Congress seems to have been more impressed by the opposite policy considerations to which Senator Humphrey, in his colloquy with Senator Hickenlooper, called the attention of the Senate. The economy cannot afford to invest enormous sums in the construction of an atomic reactor that will not be operated. If enormous sums are invested without assurance that the reactor can be operated with reasonable safety, pressure to permit operation without adequate assurance will be great and may be irresistible. PRDC's estimate of the cost of construction, preconstruction research and development, and administrative expenses during construction and test operation was \$44,020,000. The Commission found there would probably be "a cost over-run."

In contrast with the Commission's repeated expressions of uncertainty, it used other expressions which might seem to indicate a positive opinion regarding safety of operation. The Opinion and Final Decision, before advertiring to the issue of safety and other issues, said broadly: "we amplify and affirm our Opinion and Initial Decision dated December 10, 1958." The Commission also said: "The principal factual issue in this proceeding is whether there is information sufficient to provide a reasonable assurance that a utilization facility of the general type proposed in the PRDC application can be constructed and operated at the location proposed therein without undue risk to the health and safety of the public. Subsidiary to this issue is whether there is reasonable assur-

ance that technical information omitted from, and required to complete, the application will be supplied before issuance of an operating license. A careful evaluation of the entire record in this proceeding can only lead to an affirmative answer to all of these questions." And again: "It is enough for the purposes of the present proceeding (that is, for the issuance of a provisional construction permit), and for the satisfaction of the requirements of the statute and the regulations, that there be reasonable assurance that the reactor can be constructed and operated without undue risk to the health and safety of the public. We conclude that the present state of knowledge as described in the record gives; and the accident possibilities presented on the record do not negate, that assurance."

It results that the Commission's findings regarding safety of operation are ambiguous. In view of the nature, size, and location of the project, we think the findings should be uncommonly free from ambiguity. The Commission should "make the basis of its action reasonably clear. We cannot find that it did so here," *Radio Station KFH Co. v. Federal Communications Commission*, 101 U.S. App. D.C. 164, 166, 247 F. 2d, 570, 572. "'We must know what a decision means before the duty becomes ours to say whether it is right or wrong.'" *Secretary of Agriculture v. United States*, 347 U.S. 645, 654. *Pacific Far East Line, Inc. v. Federal Maritime Board*, — U.S. App. D.C. —, —, 275 F. 2d 184, 187.

We think the Commission's safety findings are deficient in an additional respect.

In 1957 the Commission made to the Joint Committee on Atomic Energy "a report of a study of the possible consequences in terms of injury to persons and damage to property, if certain hypothetical major accidents should occur in a typical large nuclear power

reactor." All the experts agreed "that the chances that major accidents might occur are exceedingly small." But "Under adverse combinations of the conditions considered, it was estimated that people could be killed at distances up to fifteen miles, and injured at distances of about forty-five miles. Land contamination could extend for greater distances." Undisputed testimony before the Commission shows that there is a "possibility of a major disaster, even though it has a low probability."

As the Commission said, "the question of safety obviously cannot be considered without regard to proposed location." The Commission found: "The site is bordered on one side by water and provides an exclusion area on the land side with a minimum radius of 2,900 feet. The population distribution for given distances from the site is as follows: 1 mile, population 175; 2, 600; 5, 1,800; 10, 31,300; 20, 187,100; 30, 2,001,700. During the summer months the population within five miles would be increased due to vacationing transients and to the fact that beaches two to five miles southwest of the site may be crowded with thousands of people."

We think it clear from the Congressional concern for safety that Congress intended no reactor should, without compelling reasons, be located where it will expose so large a population to the possibility of a nuclear disaster. It does not appear that the Commission found compelling reasons or saw that such reasons were necessary. It said: "The evidence of record with respect to site gives reasonable assurance that the site is satisfactory from structural and underground water flow standpoints. The meteorology of the site is complex, but no reason appears in the record for it to be disqualifying. The site makes possible extensive safeguards against the inadvertent

release of liquid contaminants. * * * Studies of weather, hydrology, geology, and similar problems have yielded considerable information and are still in progress. Although the data of these types are not yet complete or conclusive, the record gives reasonable assurance that safe operation of the reactor will be as likely in that location as in any other location." ³ We think this finding clearly insufficient. We need not consider whether even the most compelling reasons for preferring this location could support a finding that the reactor could be operated at this location without "undue" risk, or with "adequate" protection, to the health and safety of the public.

Because we think the safety findings insufficient, we must set aside the Commission's grant of a construction permit and remand the case for such further proceedings consistent with this opinion as the Commission may determine. We need not consider other points raised by the petitioners.

BURGER, Circuit Judge, dissenting: I dissent because I think there is no occasion at this time for the court to reach the issue of the ultimate safety of the plant's operations. The Commission has issued only a provisional permit to build a plant, not to operate it. The plant cannot go into operation until

³ The Commission continued: "We anticipate that knowledge to be acquired will fortify that assurance; * * * It is possible that there may be presently unknown effects in large fast reactor systems. A prototype of the proposed reactor at a remote location has been urged as affording greater assurance against the possibility of such unknown effects than does the presently planned experimental and theoretical programs. (sic) The Commission finds that the necessity, however, for constructing such a prototype has not been shown. If the program of meltdown investigation should prove inconclusive, it will be necessary to reconsider the question of need for a prototype."

and unless the intervenor PRDC meets the safety provisions of the Act.

The sole basis of challenge to the provisional construction permit is that the *future possibility* that an operating permit will be unlawfully and improperly issued by the Commission creates a "present," "immediate" and "unavoidable threat" of injury. I do not think we have any occasion to consider what is not now before us. The Commission expressly deferred action on that issue. This does not appear to me a "final order" which gives us jurisdiction to pass on the ultimate issue of safety; nor does it empower us to tell the Commission that it must pass on the ultimate safety of the operation before the plant is constructed. Orders are not final as to a person "unless and until they impose an obligation, deny a right or fix some legal relationship as a consummation of the administrative process." *Chicago & Southern Air Lines, Inc. v. Waterman Steamship Corp.*, 333 U.S. 103, 113 (1948).

In an area involving as much scientific uncertainty as development of nuclear energy for peaceful purposes, the Commission must be permitted to proceed step by step, *i.e.*, make its preliminary finding of probable safety when the construction permit issues and reserve final approval of operations until a later date.

I respectfully suggest that my colleagues are undertaking to assume responsibilities which Congress vested in the Commission. This is illustrated in the majority's statement:

"No reactor should, without compelling reasons, be located where it will expose so large a population to the possibility of a nuclear disaster."

On what evidence does the majority make a finding of "nuclear disaster" directly opposed to the finding which the Atomic Energy Commission made? The

majority is, in effect telling the Atomic Energy Commission that it has made an *unwise* decision on the location of the plant.

The majority also goes beyond the established limits of judicial review when it states:

"The economy cannot afford to invest enormous sums in the construction of an atomic reactor that will not be operated. If enormous sums are invested without assurance that the reactor can be operated with reasonable safety, pressure to permit operation without adequate assurance will be great and may be irresistible."

From an erroneous premise drawn out of thin air, the majority proceeds to draw an unwarranted conclusion. On what evidence can we as judges say our "economy cannot afford," or even that these appellees cannot afford, this large investment for peaceful uses of nuclear energy? I suggest our entire history is to the contrary. We invested not mere millions but *billions* in the original development of nuclear fission on a totally unproven theory of physics. It was an act of faith in the views of scientists. Surely it cannot be seriously suggested that these giants of American industry which formed PRDC are not well able—and willing—to risk the loss of millions in experiments and research. Forty or fifty million dollars to the sponsors of PRDC is a small investment to risk for the world's first known experiment of this kind into peaceful uses of nuclear energy.

If we were dealing with a radio or TV license or some other purely commercial enterprise in a developed and mature industry I would agree that there is a risk that large investment in machines might conceivably exert a subtle influence on the ultimate grant of an operations permit. Cf. *Community Broadcasting Co. v. Federal Communications Commission*, Nos. 15313, 15314 (D.C. Cir., Feb. 8,

1960). But I cannot join in the suggestion that members of the Atomic Energy Commission who have assumed obligations under oaths as binding as ours would permit an operation dangerous to the public because 40 or 50-million dollars is invested in brick, mortar and steel by men who knew from the outset they were engaged in a scientific gamble. And if any administrative agency should so abdicate its responsibilities in a matter as grave as this—which I cannot believe is likely—the courts are always in a position to exercise a final and stringent scrutiny on the issue of public safety.

Development in an area like this must, of necessity, proceed step by step. The Commission has found that the issuance of the construction permit on a provisional and restricted basis "does not in any manner adversely affect the health and safety of the public or that of the [petitioners]." The appellants do not attack this finding.

At this stage how can anyone know what the result will be? This court considered a challenge not unlike that of appellants' challenge in *Associated-Banning Co. v. United States*, 247 F. 2d 557, 561 (1957): "We cannot assume that the Board will not conduct its hearing within the intendment of the Act, so far as it may apply. It may well be, for all we are shown, that the Board's ultimate action will completely dispel every prospective fear voiced by the protest and the complaint. It is clear that the Board has not as yet entered an order 'final' as to these petitioners."

The essence of the majority action is found in its acceptance of the idea that once the Commission has permitted PRDC to invest its millions in the plant they are "bound" or "likely" to relax their notion of what is safe or dangerous in order to bail out the investors.

I emphasize that I cannot for a moment believe the sponsors of PRDC are so naive that they would think their investment of these millions is not speculative just as is most research. Nor can I believe they think that any amount of invested capital will persuade the Atomic Energy Commission to make a finding of safety which is not supported by substantial scientific evidence. It is entirely possible that PRDC might find itself the owner of a 50 million dollar scientific "white elephant" if, after completion of construction, it cannot satisfy the safety standards of the statute. Should that be the case it will be simply one of the unproductive steps in what promises to be a program to open to mankind sources of power undreamed of only a few years ago.

STATUTE AND REGULATIONS INVOLVED

1. The Atomic Energy Act of 1954, 68 Stat. 919, as amended, 42 U.S.C. 2011 *et seq.*, provides in pertinent part:

SEC. 1. DECLARATION.—Atomic energy is capable of application for peaceful as well as military purposes. It is therefore declared to be the policy of the United States that—

a. the development, use, and control of atomic energy shall be directed so as to make the maximum contribution to the general welfare, subject at all times to the paramount objective of making the maximum contribution to the common defense and security; and

b. the development, use, and control of atomic energy shall be directed so as to promote world peace, improve the general welfare, increase the standard of living, and strengthen free competition in private enterprise.

* * * *

SEC. 3. PURPOSE.—It is the purpose of this Act to effectuate the policies set forth above by providing for—

a. a program of conducting, assisting, and fostering research and development in order to encourage maximum scientific and industrial progress;

d. a program to encourage widespread participation in the development and utilization of atomic energy for peaceful purposes to the maximum extent consistent with the common defense and security and with the health and safety of the public;

SEC. 104. MEDICAL THERAPY AND RESEARCH AND DEVELOPMENT.—

a. The Commission is authorized to issue licenses to persons applying therefor for utilization facilities for use in medical therapy. In issuing such licenses the Commission is directed to permit the widest amount of effective medical therapy possible with the amount of special medical nuclear material available for such purposes and to impose the minimum amount of regulation consistent with its obligations under this Act to promote the common defense and security and to protect the health and safety of the public.

b. The Commission is authorized to issue licenses to persons applying therefor for utilization and production facilities involved in the conduct of research and development activities leading to the demonstration of the practical value of such facilities for industrial or commercial purposes. In issuing licenses under this subsection, the Commission shall impose the minimum amount of such regulations and terms of license as will permit the Commission to fulfill its obligations under this Act to promote the common defense and security and to protect the health and

safety of the public and will be compatible with the regulations and terms of license which would apply in the event that a commercial license were later to be issued pursuant to section 103 for that type of facility. In issuing such licenses, priority shall be given to those activities which will, in the opinion of the Commission, lead to major advances in the application of atomic energy for industrial or commercial purposes.

c. The Commission is authorized to issue licenses to persons applying therefor for utilization and production facilities useful in the conduct of research and development activities of the types specified in section 31 and which are not facilities of the type specified in subsection 104b. The Commission is directed to impose only such minimum amount of regulation of the licensee as the Commission finds will permit the Commission to fulfill its obligations under this Act to promote the common defense and security and to protect the health and safety of the public and will permit the conduct of widespread and diverse research and development.

d. No license under this section may be given to any person for activities which are not under or within the jurisdiction of the United States, except for the export of production or utilization facilities under terms of an agreement for cooperation arranged pursuant to section 123 or except under the provisions of section 109. No license may be issued to any corporation or other entity if the Commission knows or has reason to believe it is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government. In any event, no license may be issued to any person within the United States, if, in the opinion of the Commission, the issuance of a license to such person would be inimical to the

common defense and security or to the health and safety of the public.

SEC. 161. GENERAL PROVISIONS.—In the performance of its functions the Commission is authorized to—

b. establish by rule, regulation, or order, such standards and instructions to govern the possession and use of special nuclear material, source material, and byproduct material as the Commission may deem necessary or desirable to promote the common defense and security or to protect health or to minimize danger to life or property.

i. prescribe such regulations or orders as it may deem necessary * * * (3) to govern any activity authorized pursuant to this Act, including standards and restrictions governing the design, location, and operation of facilities used in the conduct of such activity, in order to protect health and to minimize danger to life or property.

q. make, promulgate, issue, rescind, and amend such rules and regulations as may be necessary to carry out the purposes of this Act.

SEC. 181. GENERAL.—The provisions of the Administrative Procedure Act (Public Law 404, Seventy-ninth Congress, approved June 11, 1946) shall apply to all agency action taken under this Act, and the terms "agency" and "agency action" shall have the meaning specified in the Administrative Procedure Act: *Provided, however,* That in the case of agency proceedings or actions which involve Restricted Data or defense information, the Commission shall provide

by regulation for such parallel procedures as will effectively safeguard and prevent disclosure of Restricted Data or defense information to unauthorized persons with minimum impairment of the procedural rights which would be available if Restricted Data or defense information were not involved.

SEC. 182 [as amended, 70 Stat. 1069 and 71 Stat. 579]. LICENSE APPLICATIONS.—

a. Each application for a license hereunder shall be in writing and shall specifically state such information as the Commission, by rule or regulation, may determine to be necessary to decide such of the technical and financial qualifications of the applicant, the character of the applicant, the citizenship of the applicant, or any other qualifications of the applicant as the Commission may deem appropriate for the license. In connection with applications for licenses to operate production or utilization facilities, the applicant shall state such technical specifications, including information of the amount, kind, and source of special nuclear material required, the place of the use, the specific characteristics of the facility, and such other information as the Commission may, by rule or regulation, deem necessary in order to enable it to find that the utilization or production of special nuclear material will be in accord with the common defense and security and will provide adequate protection to the health and safety of the public. Such technical specifications shall be a part of any license issued. The Commission may at any time after the filing of the original application, and before the expiration of the license, require further written statements in order to enable the Commission to determine whether the application should be granted or denied or whether a license should be modified or revoked. All applications and statements shall be signed by the applicant or licensee. Applications for, and statements made

in connection with, licenses under sections 103 and 104 shall be made under oath or affirmation. The Commission may require any other applications or statements to be made under oath or affirmation.

b. The Advisory Committee on Reactor Safeguards shall review each application under section 103 or 104b. for a license for a facility, any application under section 104c. for a testing facility, and any application under section 104a. or c. specifically referred to it by the Commission, and shall submit a report thereon, which shall be made part of the record of the application and available to the public, except to the extent that security classification prevents disclosure.

c. The Commission shall not issue any license for a utilization or production facility for the generation of commercial power under section 103, until it has given notice in writing to such regulatory agency as may have jurisdiction over the rates and services of the proposed activity, to municipalities, private utilities, public bodies, and cooperatives within transmission distance authorized to engage in the distribution of electric energy and until it has published notice of such application once each week for four consecutive weeks in the Federal Register, and until four weeks after the last notice.

d. The Commission, in issuing any license for a utilization or production facility for the generation of commercial power under section 103, shall give preferred consideration to applications for such facilities which will be located in high cost power areas in the United States if there are conflicting applications for a limited opportunity for such license. Where such conflicting applications resulting from limited opportunity for such license include

those submitted by public or cooperative bodies such applications shall be given preferred consideration.

* * * * *

SEC. 185. CONSTRUCTION PERMITS.—All applicants for licenses to construct or modify production or utilization facilities shall, if the application is otherwise acceptable to the Commission, be initially granted a construction permit. The construction permit shall state the earliest and latest dates for the completion of the construction or modification. Unless the construction or modification of the facility is completed by the completion date, the construction permit shall expire, and all rights thereunder be forfeited, unless upon good cause shown, the Commission extends the completion date. Upon the completion of the construction or modification of the facility, upon the filing of any additional information needed to bring the original application up to date, and upon finding that the facility authorized has been constructed and will operate in conformity with the application as amended and in conformity with the provisions of this Act and of the rules and regulations of the Commission, and in the absence of any good cause being shown to the Commission why the granting of a license would not be in accordance with the provisions of this Act, the Commission shall thereupon issue a license to the applicant. For all other purposes of this Act, a construction permit is deemed to be a "license".

* * * * *

SEC. 189. HEARINGS AND JUDICIAL REVIEW.—

- a. In any proceeding under this Act, for the granting, suspending, revoking, or amending of any license or construction permit, or application to transfer con-

trol, and in any proceeding for the issuance or modification of rules and regulations dealing with the activities of licensees, and in any proceeding for the payment of compensation, an award or royalties under sections 153, 157, 186e, or 188, the Commission shall grant a hearing upon the request of any person whose interest may be affected by the proceeding, and shall admit any such person as a party to such proceeding. The Commission shall hold a hearing after thirty days notice and publication once in the Federal Register on each application under section 103 or 104b for a license for a facility, and on any application under section 104c for a license for a testing facility.

(b) Any final order entered in any proceeding of the kind specified in subsection a. above shall be subject to judicial review in the manner prescribed in the Act of December 29, 1950, as amended (ch. 1189, 64 Stat. 1129), and to the provisions of section 10 of the Administrative Procedure Act, as amended.

SEC. 201. MEMBERSHIP.—There is hereby established a Joint Committee on Atomic Energy to be composed of nine Members of the Senate to be appointed by the President of the Senate, and nine Members of the House of Representatives to be appointed by the Speaker of the House of Representatives. In each instance not more than five Members shall be members of the same political party.

SEC. 202. AUTHORITY AND DUTY.—The Joint Committee shall make continuing studies of the activities of the Atomic Energy Commission and of problems relating to the development, use, and control of atomic energy. During the first sixty days of each session of

¹ Public Law 85-256 (71 Stat. 576, 579) amended Sec. 189 by adding the last sentence to subsec. a.

the Congress, the Joint Committee shall conduct hearings in either open or executive session for the purpose of receiving information concerning the development, growth, and state of the atomic energy industry. The Commission shall keep the Joint Committee fully and currently informed with respect to all of the Commission's activities. The Department of Defense shall keep the Joint Committee fully and currently informed with respect to all matters within the Department of Defense relating to the development, utilization, or application of atomic energy. Any Government agency shall furnish any information requested by the Joint Committee with respect to the activities or responsibilities of that agency in the field of atomic energy. All bills, resolutions, and other matters in the Senate or the House of Representatives relating primarily to the Commission or to the development, use, or control of atomic energy shall be referred to the Joint Committee. The members of the Joint Committee who are Members of the Senate shall from time to time report to the Senate, and the members of the Joint Committee who are Members of the House of Representatives shall from time to time report to the House, by bill or otherwise, their recommendations with respect to matters within the jurisdiction of their respective Houses which are referred to the Joint Committee or otherwise within the jurisdiction of the Joint Committee.

2. The Judicial Review Act of 1950, 64 Stat. 1129 as amended, 5 U.S.C. 1031, *et seq.*, provides in pertinent part:

SEC. 2 [as amended, 68 Stat. 961]. The court of appeals shall have exclusive jurisdiction to enjoin, set aside, suspend (in whole or in part), or to determine the validity of, all final

orders * * * (d) of the Atomic Energy Commission made reviewable by section 189 of the Atomic Energy Act of 1954, as amended.

Such jurisdiction shall be invoked by the filing of a petition as provided in section 4 hereof.

SEC. 3. The venue of any proceeding under this Act shall be in the judicial circuit wherein is the residence of the party or any of the parties filing the petition for review, or wherein such party or any of such parties has its principal office, or in the United States Court of Appeals for the District of Columbia.

SEC. 4. Any party aggrieved by a final order reviewable under this Act may, within sixty days after entry of such order, file in the court of appeals, wherein the venue as prescribed by section 3 hereof lies, a petition to review such order. Upon the entry of such an order, notice thereof shall be given promptly by the agency by service or publication in accordance with the rules of such agency. The action in court shall be brought against the United States. The petition shall contain a concise statement of (a) the nature of the proceedings as to which review is sought, (b) the facts upon which venue is based, (c) the grounds on which relief is sought, and (d) the relief prayed. * * *

* * * * *
 3. The regulations of the Atomic Energy Commission, 10 CFR, provide in pertinent part:

SECTION 2.102 Action on applications, hearings. (a) The AEC will, upon request of the applicant or an intervener, and may upon its own initiative, direct the holding of a formal hearing prior to taking action on the application. If no prior formal hearing has been held and no notice of proposed action has been served as provided in paragraph (b) of this section, AEC will direct the holding of a formal hearing upon receipt of a request therefor from the applicant or an intervener within 30 days

after the issuance of a license or other approval or a notice of denial.

(b) In such cases as it deems appropriate, AEC may cause to be served upon the applicant, and published, a notice of proposed action upon his application and shall cause copies thereof to be served upon interveners or others entitled to or requesting notification. The notice shall state the terms of the proposed action. If a formal hearing has not been held prior to issuance of the notice, AEC will direct the holding of a formal hearing upon the request of the applicant or an intervener received within fifteen days following the service of the notice.

* * * * *

SECTION 50.34 *Contents of applications; technical information hazards summary report.*

Each application shall state the following technical information:

(a) A description of the chemical, physical, metallurgical, or nuclear process to be performed, and a statement of the kind and quantity of any radioactive effluent expected to result from the process. The description of the process should be sufficiently detailed to permit evaluation of the radioactive hazards involved. The magnitude of the proposed operation should be indicated in terms of the amount and radioactivity of source, special nuclear, or by-product material to be handled per unit of time, and thermal power to be generated if any.

(b) A description of the facility. The description should be based on the design criteria for the facility as a whole and for those major component parts which are essential to the safe operation of the facility, and should be presented in sufficient detail to allow an evaluation of the adequacy of the various means proposed to minimize the probability of danger from radioactivity to persons both on and off-site. The description should also cover any activities, other than those subject to license, proposed to

be carried on in the building which will house the facility and on the balance of the site.

(c) A description of the site on which the facility is to be located. This should include a map of the area showing the location of the site and indicating the use to which the surrounding land is put, i.e., industrial, commercial, agricultural, residential; location of sources of potable or industrial water supply, watershed areas and public utilities; and a scale plot plan of the site showing the proposed location of the facility.

(d) A description of proposed procedures for: routine and non-routine operations, start-up and shut-down, maintenance, storage, training of employees, minimizing operational mishaps (such as locked controls, checklists, and close supervision), investigating unusual or unexpected incidents; and a description of such other details as may be useful in evaluating the existence and effectiveness of safeguards against the radioactive hazards in the operation of the facility.

(e) A description of plans or proposals in the event that acts or accidents occur which would create radioactive hazards. The description should relate the various operational procedures, the protective devices, and the pertinent features of the site, to such happenings as operational mistakes, equipment or instrument failure or malfunction, fire, electric power failure, flood, earthquake, storm, strike, and riot.

(f) Meteorological, hydrological, geological, and seismological data necessary for evaluating the measures proposed for protecting the public against possible radioactive hazards.

(g) An evaluation of the proposed measures and devices to prevent acts or accidents which would create radioactive hazards or to protect against the consequences should such acts or accidents occur.

(h) A description of procedures for disposal of radioactive solid waste and the final disposal of liquid waste effluent.

(i) A description of means provided to sample atmosphere discharges through stacks where such stacks may emit by-product material or special nuclear material.

SECTION 50.35 *Extended time for providing technical information.* Where, because of the nature of a proposed project, an applicant is not in a position to supply initially all of the technical information otherwise required to complete the application, he shall indicate the reason, the items or kinds of information omitted, and the approximate times when such data will be produced. If the Commission is satisfied that it has information sufficient to provide reasonable assurance that a facility of the general type proposed can be constructed and operated at the proposed location without undue risk to the health and safety of the public and that the omitted information will be supplied, it may process the application and issue a construction permit on a provisional basis without the omitted information subject to its later production and an evaluation by the Commission that the final design provides reasonable assurance that the health and safety of the public will not be endangered.

RELATION TO POPULATION CENTERS OF POWER REACTORS IN OPERATION OR UNDER CONSTRUCTION

A. LICENSED REACTORS

1. Commonwealth Edison Co., Morris, Ill., operating license issued, 626,000 thermal kilowatts: 14 miles

* Population figures are taken from applications filed with the Commission to initiate licensing proceedings (for licensed facilities), or technical reports used in authorization proceed-

from Joliet, 47 miles southwest of downtown Chicago; population within 5 miles—2,600, within 25 miles—192,000.

2. General Electric Co., Vallecitos, Calif., operating license issued, 30,000 thermal kilowatts: 33 miles east-southeast of San Francisco; population within 10 miles—22,000, within 25 miles—250,000.

3. Carolinas-Virginia Nuclear Power Associates, Inc., Parr, S.C., provisional construction permit issued, 60,500 thermal kilowatts: 25 miles northwest of Columbia, S.C.; population within 5 miles—~~10~~ per square mile, within 10 miles—25 per square mile.

4. Consolidated Edison Co., Indian Point, N.Y., provisional construction permit issued, 795,000 thermal kilowatts: 24 miles north of New York City; population within 5 miles—45,000.

5. Consumers Power Co., Big Point Rock, Mich., provisional construction permit issued, 240,000 thermal kilowatts: 85 miles southwest of Sault Ste. Marie, 165 miles north of Grand Rapids; population within 5 miles—4,964, within 20 miles—26,700, within 40 miles—52,000.

6. Northern States Power Co., Sioux Falls, South Dakota, provisional construction permit issued, 203,000 thermal kilowatts: 5.5 miles from center of Sioux Falls; population within 5 miles—10,000, within 10 miles—60,000, within 40 miles—175,000.

ings (for Commission-owned reactors to be operated by local public bodies). The Shippingport data is taken from a Commission publication in 1957, describing the plant and surrounding area.

The reactors' capacities in thermal kilowatts are given as estimated on the best available information in the Commission's February 1960 report to the Joint Committee on Atomic Energy, in connection with the annual hearings on the atomic energy industry under Section 202 of the Act.

7. Power Reactor Development Co., Lagoona Beach, Michigan, provisional construction permit issued, 304,000 thermal kilowatts: 30 miles from Detroit; population within 5 miles—1,800, within 10 miles—187,000, within 30 miles—2,001,700.

8. Saxton Nuclear Experiment Corp., Saxton, Pennsylvania, provisional construction permit issued, 20,000 thermal kilowatts: 22 miles south of Altoona, Pa., 90 miles west of Harrisburg, 100 miles east of Pittsburgh; population within 5 miles—5,627, within 10 miles—18,303.

9. Yankee Atomic Electric Co., Rowe, Mass., provisional construction permit issued, 392,000 thermal kilowatts: within 20 miles of Bennington, Vt., and Adams, Greenfield and North Adams, Mass., 40 miles east of Albany; population within 5 miles—2,036, within 20 miles—104,293.

B. GOVERNMENT-OWNED REACTORS

1. Shippingport Atomic Power Station, Shippingport, Pa., in operation, 231,000 thermal kilowatts: 25 miles from Pittsburgh (30 miles from center of Pittsburgh); population within 5 miles—20,000, within 15 miles—225,000, within 40 miles—2,800,000.

2. Consumers Public Power District, Hallam, Nebr., provisional construction authorization, 254,000 thermal kilowatts: 19 miles south of Lincoln, 65 miles southwest of Omaha; population within 5 miles—1,052, within 10 miles—6,678.

3. City of Piqua, Ohio at outskirts of Piqua, provisional construction authorization, 45,500 thermal kilowatts: 28 miles north of Dayton, 70 miles north of Cincinnati; population within 5 miles—21,000, within 25 miles—108,000.

4. Rural Cooperative Power Association, Elk River, Minn., provisional construction authorization, 73,000

thermal kilowatts: 20-35 miles northwest of St. Paul, Minneapolis; population within 5 miles—2,656, within 10 miles—7,700.

5: Puerto Rico Water Resources Authority, Punta Higuera, Puerto Rico, provisional construction authorization, 50,000 thermal kilowatts: 13 miles northwest of Mayaguez; population within 2 miles—1,400, within 15 miles—114,000.

**UNITED STATES COURT OF APPEALS FOR THE DISTRICT
OF COLUMBIA CIRCUIT**

September Term, 1959

No. 15271

INTERNATIONAL UNION OF ELECTRICAL, RADIO AND MACHINE WORKERS, AFL-CIO; UNITED AUTOMOBILE, AIRCRAFT AND AGRICULTURAL IMPLEMENT WORKERS OF AMERICA; AND UNITED PAPERMAKERS AND PAPER-WORKERS, PETITIONERS

v.

UNITED STATES OF AMERICA AND ATOMIC ENERGY COMMISSION, RESPONDENTS

POWER REACTOR DEVELOPMENT COMPANY, STATE OF MICHIGAN, INTERVENORS

On Petition to Review an Order of the Atomic Energy Commission

Before: EDGERTON, BAZÉLON, and BURGER, *Circuit Judges.*

JUDGMENT

This case came on to be heard on the record from the Atomic Energy Commission, and was argued by counsel.

ON CONSIDERATION WHEREOF, It is ordered and adjudged by this court that the order of the Atomic Energy Commission on review in this case is set aside, and that this case is remanded to the said

Atomic Energy Commission for such further proceedings consistent with the opinion of this court as the Commission may determine.

Per Circuit Judge Edgerton.

Dated: June 10, 1960.

Separate dissenting opinion by Circuit Judge Burger.

UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

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v.

UNITED STATES OF AMERICA AND ATOMIC ENERGY COMMISSION, RESPONDENTS

POWER REACTOR DEVELOPMENT COMPANY, INTERVENOR
STATE OF MICHIGAN, INTERVENOR

Before: PRETTYMAN, *Chief Judge*, EDGERTON, WILBUR E. MILLER, BAZELON, FAHY, WASHINGTON, DANAHER, BASTIAN and BURGER, *Circuit Judges*, in Chambers.

ORDER

Upon consideration of respondents' petition for a rehearing in banc, it is

ORDERED by the court that the petition for rehearing in banc is denied.

Per Curiam.

Dated: July 25, 1960.

Circuit Judges Miller and Bastian would grant the petition for rehearing in banc.

Circuit Judges Washington and Burger did not participate in this order.

**UNITED STATES COURT OF APPEALS FOR THE DISTRICT
OF COLUMBIA CIRCUIT**

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INTERNATIONAL UNION OF ELECTRICAL, RADIO AND MACHINE WORKERS, AFL-CIO, UNITED AUTOMOBILE, AIRCRAFT AND AGRICULTURAL IMPLEMENT WORKERS OF AMERICA; AND UNITED PAPERMAKERS AND PAPER-WORKERS, PETITIONERS

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UNITED STATES OF AMERICA, AND ATOMIC ENERGY COMMISSION, RESPONDENTS

**POWER REACTOR DEVELOPMENT COMPANY, INTERVENOR
STATE OF MICHIGAN, INTERVENOR**

Before: PRETTYMAN, *Chief Judge*, EDGERTON, WILBUR K. MILLER, BAZELON, FAHY, WASHINGTON, DANAHER, BASTIAN and BURGER, *Circuit Judges*, in Chambers.

ORDER

Upon consideration of the petition of intervenor Power Reactor Development Company for a rehearing in banc, it is

ORDERED by the court that the aforesaid petition is denied.

Per Curiam.

Dated: July 25, 1960.

Circuit Judges Miller and Bastian would grant the petition for rehearing in banc.

Circuit Judges Washington and Burger did not participate in this order.